## **IABETES IN TENDON**

### Estimated Number of Persons With Diabetes (PWD) in TENDON

Estimates from the Michigan Behavioral Risk Factor Surveillance System (BRFSS) using a three year average, 1999-2001, indicate that in 2000 approximately 67,421 adults (aged 18 and up) have been diagnosed with diabetes. This includes an estimated 5,575 Latinos/Hispanics (6.2%) diagnosed with diabetes. In addition, it is estimated that 1,040 or 0.24% persons under the age of 18 have been diagnosed with diabetes. National studies suggest that an additional **29,650 TENDON adults have diabetes but are not aware of it**. Among TENDON adults, **84,940 have Pre-diabetes** (15.6% of adults 40-74 years of age).

	<b>Estimated Number of</b>	Persons in TENDON	in 2000 Diagnosed wit	h Diabetes (Rate per	100) <sup>1</sup>
Age		Wh	ite	African A	merican
Group	<u>Total</u>	<b>Female</b>	<u>Male</u>	<b>Female</b>	<b>Male</b>
18-44	$12,4\overline{76}$ ( 2.0)	$4,\overline{728}$ ( $1.7$ )	5,639 ( 2.0)	739 ( 3.5)	729 ( 3.1)
45-54	15,316 (7.8)	5,659 ( 5.9)	7,401 (7.8)	476 ( 9.4)	759 (15.1)
55-64	15,306 (13.3)	6,429 (11.0)	5,761 (10.3)	800 (30.3)	840 (35.7)
65-74	12,888 (15.9)	5,791 (12.9)	5,963 (15.9)	435 (25.1)	456 (35.2)
75+	<u>11,435</u> (15.2)	<u>6,854</u> (13.8)	4,546 (16.1)	<u>314 (24.7)</u>	91 (13.5)
<b>Total</b> (95% CI**)	<b>67,421* (6.7)</b> (± 6,330)	<b>29,461</b> ( <b>5.8</b> ) (±3,900)	<b>29,310</b> ( <b>6.1</b> ) (±4,300)	<b>2,764</b> ( <b>10.2</b> ) (±800)	<b>2,875</b> ( <b>10.9</b> ) (±1,000)

Difference in totals is due to presence of 3.010 of "other races" in the survey and the effects of rounding.

### **Diabetes Deaths**

In 2000, diabetes was the sixth leading cause of death for TENDON residents. Diabetes was the primary cause of death for 333 individuals (2.9% of all deaths) and a contributing cause in an additional 780 deaths (6.8%).

Deaths in TENDON of PWD for the Year 2000 with Diabetes Listed as the Primary Cause Number of Deaths (Rates per 1,000 Diabetic Population)					
Age		Whi	te	African A	merican
<u>Group</u>	Total	Female	Male	Female	Male
0-44	11 ( 0.88)	3 ( NA)	6 ( 1.06)	1 ( NA)	$0 \overline{(NA)}$
45-54	24 ( 1.57)	5 ( NA)	15 ( 2.03)	2 ( NA)	1 (NA)
55-64	34 ( 2.22)	16 ( 2.49)	14 ( 2.43)	1 ( NA)	3 (NA)
65-74	75 ( 5.82)	35 ( 6.04)	27 ( 4.53)	6 (13.78)	5 (NA)
75+	189 (16.53)	113 (16.49)	68 (14.96)	4 ( NA)	3 (NA)
Total	333* (4.94)	$\overline{172} (5.84)$	$1\overline{30}$ ( 4.44)	$1\overline{4}(5.07)$	$1\overline{2}$ $\overline{(4.17)}$
	* Difference in the totals is due to	presence of 5 deaths of "other rac		with less then 6 deaths.	

### Diabetes Hospitalizations Reported in the Michigan Inpatient Data Base (MIDB)

In 2000, there were 20,401 hospital discharges of TENDON residents where diabetes was listed among the diagnoses. There were 1,452 (7.1%) of these hospitalizations that were directly due to diabetes, while an additional 6,749 (33.1%) involved hypertension and cardiovascular disease, conditions commonly associated with diabetes. In 1998, the comparable figures were 18,058 discharges with 1,427 (7.9%) directly attributed to diabetes.

<b>Primary Reason for Hospitalization</b>					
1998 2000					
<b>Condition</b>	Count	Percent	Count	Percent	
Diabetes	1,427	7.9%	1,452	7.1%	
Hypertension	197	1.1%	250	1.2%	
Other CVD	5,684	31.5%	6,499	31.9%	
Kidney	184	1.0%	183	0.9%	
Pneumonia	Included	in "Other"	670	3.3%	
Other	10,566	58.5%	11,347	55.6%	
TOTAL	18,058		20,401		

### **Non-Traumatic Lower Limb Amputations**

In 2000, some form of non-traumatic lower limb amputation occurred in 198 or 13.6% of the 1,452 hospital discharges with a primary diagnosis of diabetes. This compares to 173 amputations or 12.1% of the 1,427 hospitalizations of persons with diabetes in 1998

- Michigan 2000 population estimates and the three year (1999-01) average from the Behavioral Risk Factor Surveillance System (BRFSS) a statewide telephone survey of Michigan residents BRFSS data 1989 - 1993 rate of 6.2% ±2.9 Confidence Interval (CI).

  Medicaid 1996 data, Blue Cross/Blue Shield of Michigan Paid Claims Data, 1996 and BRFSS 1997-1999 data.

  National Health and Nutrition Examination Survey, III 1988-1994 (NHANES III Series 11, No. 1).

  US Health and Human Services news release, March 27, 2002.

  Michigan Department of Community Health (MDCH) death certificate data files.

- Michigan Inpatient (hospital discharge) Data Base (MIDB) for 2000.

<sup>\*\* 95%</sup> CI represents the range within which the actual number of persons with diabetes in TENDON may fall with 95% confidence.

### DIABETES IN ALLEGAN COUNTY

### Estimated Number of Persons With Diabetes (PWD) in Allegan County

Estimates from the Michigan Behavioral Risk Factor Surveillance System (BRFSS) using a three year average, 1999-2001, indicate that in 2000 approximately 4,658 adults (aged 18 and up) have been diagnosed with diabetes. This includes an estimated 374 Latinos/Hispanics (6.2%) diagnosed with diabetes. In addition, it is estimated that 70 or 0.24% persons under the age of 18 have been diagnosed with diabetes. National studies suggest that an additional 2,050 Allegan county adults have diabetes but are not aware of it. Among Allegan county adults, 6,020 have Pre-diabetes (15.6% of adults 40-74 years of age).

#### Estimated Number of Persons in Allegan county in 2000 Diagnosed with Diabetes (Rate per 100)<sup>1</sup> White Age **African American Female** Female Male **Group** Male <u>Total</u> 7<del>78</del> ( 2.0) 1,059 ( 7.8) 401 ( 2.0) 581 ( 7.8) $3\overline{27}$ ( 1.7) 18-44 11 ( 3.5) 11 ( 3.1) 45-54 423 (5.9) 11 (9.4) 11 (15.1) 55-64 497 (11.0) 1,106 (13.3) 465 (10.3) 21 (30.3) 21 (35.7) 919 (15.9) 65-74 433 (12.9) 465 (15.9) 11 (25.1) 21 (35.2) 0 (13.5) 75 +797 (15.2) 486 (13.8) 349 (16.1) 11 (24.7) **Total** 4,658\*( 6.7) 2,166 ( 5.8) 2,261 (6.1) *63 ( 10.2)* 63 (10.9) (95% CI\*\*) $(\pm 410)$ $(\pm 270)$ $(\pm 300)$ $(\pm 10)$ $(\pm 10)$

### **Diabetes Deaths**

In 2000, diabetes was the eighth leading cause of death for Allegan county residents. Diabetes was the primary cause of death for 21 individuals (2.5% of all deaths) and a contributing cause in an additional 54 deaths (6.3%).

Deaths in Allegan County of PWD for the Year 2000 with Diabetes Listed as the Primary Cause Number of Deaths (Rates per 1,000 Diabetic Population)					
Age		Whit	e	African American	
Group	<u>Total</u>	<b>Female</b>	<b>Male</b>	Female Male	
0-44	$0 \overline{(NA)}$	$\overline{0 (NA)}$	$0 \overline{(NA)}$	No African American	
45-54	0 ( NA)	0 ( NA)	0 (NA)	deaths reported for	
55-64	2 ( NA)	1 ( NA)	1 (NA)	Allegan county	
65-74	0 ( NA)	0 ( NA)	0 (NA)	,	
75+	<u>19 (23.85)</u>	<u>15 (30.87)</u>	4 (NA)		
Total	$\overline{21} \ \overline{(4.51)}$	<u>16 ( 7.39)</u>	$\overline{5}(\overline{NA})$		
	NA Not Able to calculate with less	then 6 deaths.			

#### Diabetes Hospitalizations Reported in the Michigan Inpatient Data Base (MIDB)<sup>7</sup>

In 2000, there were 1,352 hospital discharges of Allegan county residents where diabetes was listed among the diagnoses. There were 89 (6.6%) of these hospitalizations that were directly due to diabetes, while an additional 513 (37.9%) involved hypertension and cardiovascular disease, conditions commonly associated with diabetes. In 1998, the comparable figures were 1,188 discharges with 73 (6.1%) directly attributed to diabetes.

<b>Primary Reason for Hospitalization</b>					
	199	98	20	00	
<b>Condition</b>	Count	Percent	Count	Percent	
Diabetes	73	6.1%	89	6.6%	
Hypertension	8	0.7%	15	1.1%	
Other CVD	439	37.0%	498	36.8%	
Kidney	12	1.0%	12	0.9%	
Pneumonia	Included	in "Other"	48	3.6%	
Other	<u>656</u>	55.2%	<u>690</u>	51.0%	
TOTAL	$1,\overline{188}$		$1,\overline{352}$		

### Non-Traumatic **Lower Limb Amputations**

In 2000, some form of non-traumatic lower limb amputation occurred in 19 or 21.3% of the 89 hospital discharges with a primary diagnosis of diabetes. This compares to 10 amputations or 13.7% of the 73 hospitalizations of persons with diabetes in 1998.

- 1) Michigan 2000 population estimates and the three year (1999-01) average from the Behavioral Risk Factor Surveillance System (BRFSS) a statewide telephone survey of Michigan residents Michigan 2000 population estimates and the three year (1999-01) average from the Behavioral Risk Factor Surve ages 18 years and older.

  BRFSS data 1989 - 1993 rate of 6.2% ±2.9 Confidence Interval (CI).

  Medicaid 1996 data, Blue Cross/Blue Shield of Michigan Paid Claims Data, 1996 and BRFSS 1997-1999 data.

  National Health and Nutrition Examination Survey, III 1988-1994 (NHANES III Series 11, No. 1).

  US Health and Human Services news release, March 27, 2002.

  Michigan Department of Community Health (MDCH) death certificate data files.

  Michigan Inpatient (hospital discharge) Data Base (MIDB) for 2000.

Difference in totals is due to presence of 105 of "other races" in the survey and the effects of rounding

<sup>\* 95%</sup> CI represents the range within which the actual number of persons with diabetes in Allegan county may fall with 95% confidence.

## DIABETES IN BARRY COUNTY

### Estimated Number of Persons With Diabetes (PWD) in Barry County

Estimates from the Michigan Behavioral Risk Factor Surveillance System (BRFSS) using a three year average, 1999-2001, indicate that in 2000 approximately 2,699 adults (aged 18 and up) have been diagnosed with diabetes. This includes an estimated 52 Latinos/Hispanics (6.2%) diagnosed with diabetes. In addition, it is estimated that 40 or 0.24% persons under the age of 18 have been diagnosed with diabetes. National studies suggest that an additional 1,210 Barry county adults have diabetes but are not aware of it. Among Barry county adults, **3,520 have Pre-diabetes** (15.6% of adults 40-74 years of age). 5

Estimated Number of Persons in Barry county in 2000 Diagnosed with Diabetes (Rate per 100) <sup>1</sup>					
Age		Wh	ite		
Group	<b>Total</b>	<b>Female</b>	<u>Male</u>		
18-44	394 (2.0)	177 ( 1.7)	221 ( 2.0)		
45-54	619 (7.8)	254 (5.9)	354 (7.8)		
55-64	703 (13.3)	332 (11.0)	310 (10.3)		
65-74	572 (15.9)	266 (12.9)	321 (15.9)		
75+	<u>412 (15.2)</u>	<u>266 (13.8)</u>	<u>199</u> (16.1)		
Total	2,699* ( 6.7)	1,294 ( 5.8)	1,405 (6.1)		
(95% CI**)	(±230)	$(\pm 150)$	(±170)		

Difference in totals is due to the effects of rounding.

### Diabetes Deaths

In 2000, diabetes was the seventh leading cause of death for Barry county residents. Diabetes was the primary cause of death for 9 individuals (2.0% of all deaths) and a contributing cause in an additional 36 deaths (7.8%).

Deaths in Barry County of PWD for the Year 2000 with Diabetes Listed as the Primary Cause Number of Deaths (Rates per 1,000 Diabetic Population)				
Age		v	Vhite	
Group	<u>Total</u>	<b>Female</b>	<u>Male</u>	
0-44	1 (NA)*	1 (NA)	0 (NA)	
45-54	0 ( NA)	0 (NA)	0 (NA)	
55-64	1 ( NA)	1 (NA)	0 (NA)	
65-74	0 ( NA)	0 (NA)	0 (NA)	
75+	7 (16.97)	4 (NA)	<u>3 (NA)</u>	
Total	$\overline{9}$ $\overline{(3.33)}$	$\overline{6}$ $(\overline{4.64})$	$\overline{3}$ $(\overline{NA})$	
	*NA Not Able to calculate with less then 6 deaths.	, , ,		

### Diabetes Hospitalizations Reported in the Michigan Inpatient Data Base (MIDB)

In 2000, there were 820 hospital discharges of Barry county residents where diabetes was listed among the diagnoses. There were 58 (7.1%) of these hospitalizations that were directly due to diabetes, while an additional 328 (40.0%) involved hypertension and cardiovascular disease, conditions commonly associated with diabetes. In 1998, the comparable figures were 806 discharges with 64 (7.9%) directly attributed to diabetes.

Primary Reason for Hospitalization					
	199	<b>08</b>	20	00 _	
Condition	Count	Percent	Count	Percent	
Diabetes	64	7.9%	58	7.1%	
Hypertension	4	0.5%	2	0.2%	
Other CVD	307	38.1%	326	39.8%	
Kidney	9	1.1%	4	0.5%	
Pneumonia	Included	in "Other"	21	2.6%	
Other	<u>422</u>	52.4%	<u>409</u>	49.9%	
TOTAL	806		820		

#### Non-Traumatic **Lower Limb Amputations**

In 2000, some form of non-traumatic lower limb amputation occurred in 9 or 15.5% of the 58 hospital discharges with a primary diagnosis of diabetes. This compares to 11 amputations or 17.2% of the 64 hospitalizations of persons with diabetes in 1998.

- Michigan 2000 population estimates and the three year (1999-01) average from the Behavioral Risk Factor Surveillance System (BRFSS) a statewide telephone survey of Michigan residents Michigan 2000 population estimates and the three year (1999-01) average from the Behavioral Kisk Factor Surve ages 18 years and older.

  BRFSS data 1989 - 1993 rate of 6.2% ±2.9 Confidence Interval (CI).

  Medicaid 1996 data, Blue Cross/Blue Shield of Michigan Paid Claims Data, 1996 and BRFSS 1997-1999 data.

  National Health and Nutrition Examination Survey, III 1988-1994 (NHANES III Series 11, No. 1).

  US Health and Human Services news release, March 27, 2002.

  Michigan Department of Community Health (MDCH) death certificate data files.

  Michigan Inpatient (hospital discharge) Data Base (MIDB) for 2000.

<sup>\*\* 95%</sup> CI represents the range within which the actual number of persons with diabetes in Barry county may fall with 95% confidence.

## **DIABETES IN CLINTON COUNTY**

### Estimated Number of Persons With Diabetes (PWD) in Clinton County

Estimates from the Michigan Behavioral Risk Factor Surveillance System (BRFSS) using a three year average, 1999-2001, indicate that in 2000 approximately 2,953 adults (aged 18 and up) have been diagnosed with diabetes. This includes an estimated 105 Latinos/Hispanics (6.2%) diagnosed with diabetes. In addition, it is estimated that 40 or 0.24% persons under the age of 18 have been diagnosed with diabetes. National studies suggest that an additional 1,330 Clinton county adults have diabetes but are not aware of it. Among Clinton county adults, 3,970 have Pre-diabetes (15.6% of adults 40-74 years of age).

### Estimated Number of Persons in Clinton county in 2000 Diagnosed with Diabetes (Rate per 100)<sup>1</sup>

Age		Whi	te
<u>Group</u>	<u>Total</u>	<b>Female</b>	<u>Male</u>
18-44	450 (2.0)	$20\overline{3}$ ( 1.7)	246 ( 2.0)
45-54	712 (7.8)	299 ( 5.9)	395 (7.8)
55-64	759 (13.3)	342 (11.0)	331 (10.3)
65-74	581 (15.9)	278 (12.9)	310 (15.9)
75+	<u>450</u> (15.2)	<u>289 (13.8)</u>	<u>203</u> (16.1)
Total	2,953* ( 6.7)	1,411 ( 5.8)	1,486 (6.1)
(95% CI**)	$(\pm 260)$	$(\pm 170)$	$(\pm 190)$

Difference in totals is due to presence of 56 of "other races" in the survey and the effects of rounding.

### **Diabetes Deaths**

In 2000, diabetes was the fourth leading cause of death for Clinton county residents. Diabetes was the primary cause of death for 20 individuals (4.3% of all deaths) and a contributing cause in an additional 23 deaths (4.9%).

## Deaths in Clinton County of PWD for the Year 2000 with Diabetes Listed as the Primary Cause Number of Deaths (Rates per 1 000 Diabetic Population)

	Number	r of Deaths (Rates pe	er 1,000 Diabetic Popul	auon)	
Age		Whi	te	African Aı	merican
<u>Group</u>	<u>Total</u>	<b>Female</b>	<u>Male</u>	<b>Female</b>	<u>Male</u>
0-44	$1\overline{(NA)^*}$	$\overline{1}$ (NA)	$0 \overline{(NA)}$	No African	American
45-54	2 ( NA)	1 ( NA)	1 ( NA)	deaths re	corded.
55-64	0 ( NA)	0 ( NA)	0 ( NA)		
65-74	5 ( NA)	1 ( NA)	4 ( NA)		
75+	<u>12 (26.67)</u>	<u>6 (20.79)</u>	<u>6 (29.54)</u>		
Total	20 (6.77)	9 (6.38)	11 (7.40)		
	* NA Not Able to calculate with les	s then 6 deaths.			

### Diabetes Hospitalizations Reported in the Michigan Inpatient Data Base (MIDB)<sup>7</sup>

In 2000, there were 743 hospital discharges of Clinton county residents where diabetes was listed among the diagnoses. There were 42 (5.7%) of these hospitalizations that were directly due to diabetes, while an additional 248 (33.4%) involved hypertension and cardiovascular disease, conditions commonly associated with diabetes. In 1998, the comparable figures were 647 discharges with 60 (9.3%) directly attributed to diabetes.

Pi	Primary Reason for Hospitalization					
	199	8	20	00 _		
<b>Condition</b>	Count	Percent	Count	Percent		
Diabetes	60	9.3%	42	5.7%		
Hypertension	6	0.9%	4	0.5%		
Other CVD	200	30.9%	244	32.8%		
Kidney	7	1.1%	7	0.9%		
Pneumonia	Included	in "Other"	19	2.6%		
Other	<u>374</u>	57.8%	427	57.5%		
TOTAL	647		743			

#### **Non-Traumatic Lower Limb Amputations**

In 2000, some form of non-traumatic lower limb amputation occurred in 10 or 23.8% of the 42 hospital discharges with a primary diagnosis of diabetes. This compares to 4 amputations or 6.7% of the 60 hospitalizations of persons with diabetes in 1998.

- Michigan 2000 population estimates and the three year (1999-01) average from the Behavioral Risk Factor Surveillance System (BRFSS) a statewide telephone survey of Michigan residents Michigan 2000 population estimates and the three year (1999-01) average from the Benavioral Risk Factor Surve ages 18 years and older.

  BRFSS data 1989 - 1993 rate of 6.2% ±2.9 Confidence Interval (CI).

  Medicaid 1996 data, Blue Cross/Blue Shield of Michigan Paid Claims Data, 1996 and BRFSS 1997-1999 data.

  National Health and Nutrition Examination Survey, III 1988-1994 (NHANES III Series 11, No. 1).

  US Health and Human Services news release, March 27, 2002.

  Michigan Department of Community Health (MDCH) death certificate data files.

- Michigan Inpatient (hospital discharge) Data Base (MIDB) for 2000

<sup>\* 95%</sup> CI represents the range within which the actual number of persons with diabetes in Clinton county may fall with 95% confidence.

### DIABETES IN EATON COUNTY

### Estimated Number of Persons With Diabetes (PWD) in Eaton County

Estimates from the Michigan Behavioral Risk Factor Surveillance System (BRFSS) using a three year average, 1999-2001, indicate that in 2000 approximately 4,827 adults (aged 18 and up) have been diagnosed with diabetes. This includes an estimated 206 Latinos/Hispanics (6.2%) diagnosed with diabetes. In addition, it is estimated that 60 or 0.24% persons under the age of 18 have been diagnosed with diabetes. National studies suggest that an additional 2,170 Eaton county adults have diabetes but are not aware of it. Among Eaton county adults, **6,320 have Pre-diabetes** (15.6% of adults 40-74 years of age).

#### Estimated Number of Persons in Eaton county in 2000 Diagnosed with Diabetes (Rate per 100)<sup>1</sup> White Age **African American Female Female** Male **Group** Male <u>Total</u> 7<del>50</del> ( 2.0) 1,172 ( 7.8) 348 ( 2.0) 583 ( 7.8) $3\overline{07}$ ( 1.7) 18-44 51 ( 3.5) 31 ( 3.1) 45-54 450 (5.9) 41 (9.4) 51 (15.1) 55-64 1,190 (13.3) 511 (11.0) 460 (10.3) 51 (30.3) 61 (35.7) 20 (25.1) 928 (15.9) 65-74 429 (12.9) 450 (15.9) 20 (35.2) <u>0</u> (13.5) 75 +787 (15.2) 491 (13.8) 317 (16.1) 20 (24.7) **Total** 4,827\*( 6.7) 2,187 ( 5.8) 2,157 (6.1) 184 ( 10.2) 164 ( 10.9) (95% CI\*\*) $(\pm 420)$ $(\pm 270)$ $(\pm 290)$ $(\pm 50)$ $(\pm 50)$ Difference in totals is due to presence of 135 of "other races" in the survey and the effects of rounding

### **Diabetes Deaths**

In 2000, diabetes was the sixth leading cause of death for Eaton county residents. Diabetes was the primary cause of death for 25 individuals (3.2% of all deaths) and a contributing cause in an additional 64 deaths (8.3%).

Deaths in Eaton County of PWD for the Year 2000 with Diabetes Listed as the Primary Cause Number of Deaths (Rates per 1,000 Diabetic Population)					
Age		White		African American	
<u>Group</u>	<u>Total</u>	<b>Female</b>	<b>Male</b>	Female Male	
0-44	$0 \overline{(NA)}$	$\overline{0 (NA)}$	$0 \overline{(NA)}$	No African American	
45-54	0 ( NA)	0 ( NA)	0 ( NA)	deaths reported for	
55-64	3 ( NA)	1 ( NA)	2 ( NA)	Eaton county	
65-74	6 ( 6.47)	3 ( NA)	1 ( NA)	•	
75+	<u>16 (20.32)</u>	9 (18.34)	7 (22.09)		
Total	25*(5.18)	$1\overline{3} \ \overline{(5.94)}$	10 (4.64)		
	* Difference in the totals is due to	presence of 2 deaths of "other races".	NA Not Able to calculate	e with less then 6 deaths.	

### Diabetes Hospitalizations Reported in the Michigan Inpatient Data Base (MIDB)<sup>7</sup>

In 2000, there were 1,358 hospital discharges of Eaton county residents where diabetes was listed among the diagnoses. There were 90 (6.6%) of these hospitalizations that were directly due to diabetes, while an additional 480 (35.3%) involved hypertension and cardiovascular disease, conditions commonly associated with diabetes. In 1998, the comparable figures were 1,247 discharges with 96 (7.7%) directly attributed to diabetes.

<b>Primary Reason for Hospitalization</b>				
1998			20	00
<b>Condition</b>	Count	Percent	Count	Percent
Diabetes	96	7.7%	90	6.6%
Hypertension	5	0.4%	9	0.7%
Other CVD	417	33.4%	471	34.7%
Kidney	7	0.6%	11	0.8%
Pneumonia	Included	in "Other"	33	2.4%
Other	<u>722</u>	57.9%	<u>744</u>	54.8%
TOTAL	$1,\overline{247}$		1,358	

### Non-Traumatic **Lower Limb Amputations**

In 2000, some form of non-traumatic lower limb amputation occurred in 12 or 13.3% of the 90 hospital discharges with a primary diagnosis of diabetes. This compares to 13 amputations or 13.5% of the 96 hospitalizations of persons with diabetes in 1998.

- Michigan 2000 population estimates and the three year (1999-01) average from the Behavioral Risk Factor Surveillance System (BRFSS) a statewide telephone survey of Michigan residents ages 18 years and older. BRFSS data 1989 - 1993 rate of 6.2% ±2.9 Confidence Interval (CI).
- BRFSS data 1989 1995 rate of 6.2% ±2.9 Confidence Interval (C1).

  Medicaid 1996 data, Blue Cross/Blue Shield of Michigan Paid Claims Data, 1996 and BRFSS 1997-1999 data.

  National Health and Nutrition Examination Survey, III 1988-1994 (NHANES III Series 11, No. 1).

  US Health and Human Services news release, March 27, 2002.

  Michigan Department of Community Health (MDCH) death certificate data files.

  Michigan Inpatient (hospital discharge) Data Base (MIDB) for 2000.

<sup>\* 95%</sup> CI represents the range within which the actual number of persons with diabetes in Eaton county may fall with 95% confidence.

# DIABETES IN GRATIOT COUNTY

### Estimated Number of Persons With Diabetes (PWD) in Gratiot County

Estimates from the Michigan Behavioral Risk Factor Surveillance System (BRFSS) using a three year average, 1999-2001, indicate that in 2000 approximately 2,025 adults (aged 18 and up) have been diagnosed with diabetes. This includes an estimated 116 Latinos/Hispanics (6.2%) diagnosed with diabetes. In addition, it is estimated that 20 or 0.24% persons under the age of 18 have been diagnosed with diabetes. National studies suggest that an additional 880 Gratiot county adults have diabetes but are not aware of it. Among Gratiot county adults, 2,370 have Pre-diabetes (15.6% of adults 40-74 years of age).

### Estimated Number of Persons in Gratiot county in 2000 Diagnosed with Diabetes (Rate per 100)<sup>1</sup>

Age		White	<b>;</b>
Group	<u>Total</u>	<b>Female</b>	<b>Male</b>
18-44	328 (2.0)	129 (1.7)	$17\overline{1} \ (2.0)$
45-54	403 (7.8)	161 ( 5.9)	214 (7.8)
55-64	469 (13.3)	214 (11.0)	193 (10.3)
65-74	403 (15.9)	204 (12.9)	204 (15.9)
75+	<u>422</u> (15.2)	<u>279 (13.8)</u>	<u>182</u> (16.1)
Total	2,025* ( 6.7)	986 ( 5.8)	964 (6.1)
5% CI**)	$(\pm 180)$	$(\pm 110)$	(±130)

Difference in totals is due to presence of 75 of "other races" in the survey and the effects of rounding.

### **Diabetes Deaths**

In 2000, diabetes was the sixth leading cause of death for Gratiot county residents. Diabetes was the primary cause of death for 16 individuals (3.8% of all deaths) and a contributing cause in an additional 37 deaths (8.7%).

### Deaths in Gratiot County of PWD for the Year 2000 with Diabetes Listed as the Primary Cause **Number of Deaths** (Rates per 1,000 Diabetic Population)

Age		Whi	te	African A	merican
Group	<u>Total</u>	<b>Female</b>	<u>Male</u>	<b>Female</b>	Male
0-44	0 ( NA)*	$\overline{0}$ (NA)	$0 \overline{(NA)}$	No African	
45-54	1 ( NA)	1 ( NA)	0 (NA)	deaths re	ecorded.
55-64	2 ( NA)	1 ( NA)	1 (NA)		
65-74	2 ( NA)	1 ( NA)	1 (NA)		
75+	11 (26.08)	8 (28.72)	3 (NA)		
Total	$\overline{16} \ \overline{(7.90)}$	$1\overline{1} \ \overline{(11.16)}$	$\overline{5} (NA)$		
	* NA Not Able to calculate with le	ess then 6 deaths.			

### Diabetes Hospitalizations Reported in the Michigan Inpatient Data Base (MIDB)<sup>7</sup>

In 2000, there were 894 hospital discharges of Gratiot county residents where diabetes was listed among the diagnoses. There were 39 (4.4%) of these hospitalizations that were directly due to diabetes, while an additional 312 (34.9%) involved hypertension and cardiovascular disease, conditions commonly associated with diabetes. In 1998, the comparable figures were 775 discharges with 48 (6.2%) directly attributed to diabetes.

Primary Reason for Hospitalization				
	20	00		
<b>Condition</b>	Count	Percent	Count	Percent
Diabetes	48	6.2%	39	4.4%
Hypertension	7	0.9%	19	2.1%
Other CVD	286	36.9%	293	32.8%
Kidney	9	1.2%	13	1.5%
Pneumonia	Included	in "Other"	38	4.3%
Other	<u>425</u>	54.8%	<u>492</u>	55.0%
TOTAL	775		894	

### Non-Traumatic **Lower Limb Amputations**

In 2000, some form of non-traumatic lower limb amputation occurred in 8 or 20.5% of the 39 hospital discharges with a primary diagnosis of diabetes. This compares to 2 amputations or 4.2% of the 48 hospitalizations of persons with diabetes in 1998.

- Michigan 2000 population estimates and the three year (1999-01) average from the Behavioral Risk Factor Surveillance System (BRFSS) a statewide telephone survey of Michigan residents
- ages 18 years and older. BRFSS data 1989 1993 rate of 6.2% ±2.9 Confidence Interval (CI).
- Medicaid 1996 data, Blue Cross/Blue Shield of Michigan Paid Claims Data, 1996 and BRFSS 1997-1999 data. National Health and Nutrition Examination Survey, III 1988-1994 (NHANES III Series 11, No. 1). US Health and Human Services news release, March 27, 2002. Michigan Department of Community Health (MDCH) death certificate data files.

- Michigan Inpatient (hospital discharge) Data Base (MIDB) for 2000.

<sup>\* 95%</sup> CI represents the range within which the actual number of persons with diabetes in Gratiot county may fall with 95% confidence.

## DIABETES IN INGHAM COUNTY

### Estimated Number of Persons With Diabetes (PWD) in Ingham County

Estimates from the Michigan Behavioral Risk Factor Surveillance System (BRFSS) using a three year average, 1999-2001, indicate that in 2000 approximately 11,379 adults (aged 18 and up) have been diagnosed with diabetes. This includes an estimated 1,004 Latinos/Hispanics (6.2%) diagnosed with diabetes. In addition, it is estimated that 170 or 0.24% persons under the age of 18 have been diagnosed with diabetes. National studies suggest that an additional 4,930 Ingham county adults have diabetes but are not aware of it.<sup>4</sup> Among Ingham county adults, **14,040** have Pre-diabetes (15.6% of adults 40-74 years of age).

#### Estimated Number of Persons in Ingham county in 2000 Diagnosed with Diabetes (Rate per 100)<sup>1</sup> White Age **African American Female Female** Male **Group** Male <u>Total</u> 2,4<del>18 (</del> 2.0) 2,643 ( 7.8) 805 ( 1.7) 237 ( 3.5) 18-44 929 ( 2.0) 190 ( 3.1) 45-54 891 (5.9) 1,071 (7.8) 152 (9.4) 227 (15.1) 55-64 2,484 (13.3) 929 (11.0) 246 (30.3) 256 (35.7) 805 (10.3) 133 (25.1) 65-74 2,034 (15.9) 834 (12.9) 805 (15.9) 142 (35.2) <u>95 (24.7)</u> 75 +1,800 (15.2) 995 (13.8) 616 (16.1) 28 (13.5) **Total** 11,379\* ( 6.7) 4,454 ( 5.8) 4,226 (6.1) 862 (10.2) 843 (10.9) (95% CI\*\*) $(\pm 700)$ $(\pm 1,150)$ $(\pm 670)$ $(\pm 280)$ $(\pm 280)$ Difference in totals is due to presence of 993 of "other races" in the survey and the effects of rounding

### **Diabetes Deaths**

In 2000, diabetes was the seventh leading cause of death for Ingham county residents. Diabetes was the primary cause of death for 54 individuals (2.8% of all deaths) and a contributing cause in an additional 123 deaths (6.4%).

Deaths in Ingham County of PWD for the Year 2000 with Diabetes Listed as the Primary Cause Number of Deaths (Rates per 1,000 Diabetic Population)					
Age	Age White African American				
Group	Total	Female	Male	Female	Male
0-44	$0 \overline{(NA)}$	$\overline{0 (NA)}$	$0 \overline{(NA)}$	$\overline{0 \text{ (NA)}}$	$0 \overline{(NA)}$
45-54	7 ( 2.65)	0 ( NA)	5 ( NA)	1 (NA)	0 (NA)
55-64	6 ( 2.42)	2 ( NA)	3 ( NA)	0 (NA)	1 (NA)
65-74	13 ( 6.39)	8 ( 9.59)	3 ( NA)	1 (NA)	0 (NA)
75+	<u>28 (15.56)</u>	<u>17 (17.09)</u>	8 (12.99)	<u>2 (NA)</u>	<u>1 (NA)</u>
Total	$54*\overline{(4.75)}$	27 ( <u>6.06)</u>	$1\overline{9}(\overline{4.50})$	$\overline{4} \overline{(NA)}$	$\overline{2}(\overline{NA})$
	* Difference in the totals is due to	presence of 2 deaths of "other races".	NA Not Able to calculate	with less then 6 deaths.	, ,

### Diabetes Hospitalizations Reported in the Michigan Inpatient Data Base (MIDB)<sup>7</sup>

In 2000, there were 3,949 hospital discharges of Ingham county residents where diabetes was listed among the diagnoses. There were 353 (8.9%) of these hospitalizations that were directly due to diabetes, while an additional 1,231 (31.2%) involved hypertension and cardiovascular disease, conditions commonly associated with diabetes. In 1998, the comparable figures were 3,491 discharges with 385 (11.0%) directly attributed to diabetes.

<b>Primary Reason for Hospitalization</b>				
	1998			00
Condition	Count	Percent	Count	Percent
Diabetes	385	11.0%	353	8.9%
Hypertension	29	0.8%	39	1.0%
Other CVD	1,056	30.2%	1,192	30.2%
Kidney	32	0.9%	28	0.7%
Pneumonia	Included	in "Other"	107	2.7%
Other	1,989	57.0%	2,230	56.5%
TOTAL	3,491		3,949	

### Non-Traumatic **Lower Limb Amputations**

In 2000, some form of non-traumatic lower limb amputation occurred in 45 or 12.7% of the 353 hospital discharges with a primary diagnosis of diabetes. This compares to 42 amputations or 10.9% of the 385 hospitalizations of persons with diabetes in 1998.

- Michigan 2000 population estimates and the three year (1999-01) average from the Behavioral Risk Factor Surveillance System (BRFSS) a statewide telephone survey of Michigan residents Michigan 2000 population estimates and the three year (1999-01) average from the Behavioral Risk Factor Surve ages 18 years and older.

  BRFSS data 1989 - 1993 rate of 6.2% ±2.9 Confidence Interval (CI).

  Medicaid 1996 data, Blue Cross/Blue Shield of Michigan Paid Claims Data, 1996 and BRFSS 1997-1999 data.

  National Health and Nutrition Examination Survey, III 1988-1994 (NHANES III Series 11, No. 1).

  US Health and Human Services news release, March 27, 2002.

  Michigan Department of Community Health (MDCH) death certificate data files.

  Michigan Inpatient (hospital discharge) Data Base (MIDB) for 2000.

<sup>\*\* 95%</sup> CI represents the range within which the actual number of persons with diabetes in Ingham county may fall with 95% confidence

### **DIABETES IN IONIA COUNTY**

### Estimated Number of Persons With Diabetes (PWD) in Ionia County

Estimates from the Michigan Behavioral Risk Factor Surveillance System (BRFSS) using a three year average, 1999-2001, indicate that in 2000 approximately 2,578 adults (aged 18 and up) have been diagnosed with diabetes. This includes an estimated 106 Latinos/Hispanics (6.2%) diagnosed with diabetes. In addition, it is estimated that 40 or 0.24% persons under the age of 18 have been diagnosed with diabetes. National studies suggest that an additional 1,140 Ionia county adults have diabetes but are not aware of it. Among Ionia county adults, **3,260 have Pre-diabetes** (15.6% of adults 40-74 years of age).

#### Estimated Number of Persons in Ionia county in 2000 Diagnosed with Diabetes (Rate per 100)<sup>1</sup>

Age		Whit	te
Group	Total	<u>Female</u>	<u>Male</u>
18-44	506 (2.0)	$19\overline{0} \ (1.7)$	$25\overline{4}$ ( 2.0)
45-54	581 (7.8)	222 (5.9)	317 (7.8)
55-64	591 (13.3)	264 (11.0)	254 (10.3)
65-74	487 (15.9)	243 (12.9)	254 (15.9)
75+	<u>412</u> (15.2)	<u>264 (13.8)</u>	<u>180 (16.1)</u>
Total	2,578* ( 6.7)	1,184 ( 5.8)	1,258 (6.1)
(95% CI**)	$(\pm 250)$	$(\pm 150)$	$(\pm 180)$

Difference in totals is due to presence of 136 of "other races" in the survey and the effects of rounding.

### **Diabetes Deaths**

Age

In 2000, diabetes was the fifth leading cause of death for Ionia county residents. Diabetes was the primary cause of death for 26 individuals (5.3% of all deaths) and a contributing cause in an additional 24 deaths (4.9%).

#### Deaths in Ionia County of PWD for the Year 2000 with Diabetes Listed as the Primary Cause **Number of Deaths** (Rates per 1,000 Diabetic Population) White African American **Female** Male Female Male Group Total NA)\* NA) NA) No African American deaths recorded. NA)

### Diabetes Hospitalizations Reported in the Michigan Inpatient Data Base (MIDB)

In 2000, there were 914 hospital discharges of Ionia county residents where diabetes was listed among the diagnoses. There were 54 (5.9%) of these hospitalizations that were directly due to diabetes, while an additional 337 (36.9%) involved hypertension and cardiovascular disease, conditions commonly associated with diabetes. In 1998, the comparable figures were 761 discharges with 89 (11.7%) directly attributed to diabetes.

Primary Reason for Hospitalization				
1998			20	00 _
<b>Condition</b>	Count	Percent	Count	Percent
Diabetes	89	11.7%	54	5.9%
Hypertension	9	1.2%	7	0.8%
Other CVD	251	33.0%	330	36.1%
Kidney	7	0.9%	7	0.8%
Pneumonia	Included	in "Other"	26	2.8%
Other	<u>405</u>	53.2%	<u>490</u>	53.6%
TOTAL	761		914	

### Non-Traumatic **Lower Limb Amputations**

In 2000, some form of non-traumatic lower limb amputation occurred in 5 or 9.3% of the 54 hospital discharges with a primary diagnosis of diabetes. This compares to 11 amputations or 12.4% of the 89 hospitalizations of persons with diabetes in 1998.

- Michigan 2000 population estimates and the three year (1999-01) average from the Behavioral Risk Factor Surveillance System (BRFSS) a statewide telephone survey of Michigan residents
- ages 18 years and older. BRFSS data 1989 1993 rate of 6.2% ±2.9 Confidence Interval (CI).
- Medicaid 1996 data, Blue Cross/Blue Shield of Michigan Paid Claims Data, 1996 and BRFSS 1997-1999 data. National Health and Nutrition Examination Survey, III 1988-1994 (NHANES III Series 11, No. 1). US Health and Human Services news release, March 27, 2002. Michigan Department of Community Health (MDCH) death certificate data files.

- Michigan Inpatient (hospital discharge) Data Base (MIDB) for 2000.

<sup>\* 95%</sup> CI represents the range within which the actual number of persons with diabetes in Ionia county may fall with 95% confidence.

<sup>0-44</sup> 45-54 NA) NA) 55-64 2 ( NA) 2 (NA) 0 ( NA) 65-74 8 (16.41) 6 (24.68) 2 ( NA) <u>14 (33.95</u>) 75 +8 (30.27) 6 (33.39) **Total** 26 (10.09) (14.36)\* NA Not Able to calculate with less then 6 deaths.

## DIABETES IN KENT COUNTY

### Estimated Number of Persons With Diabetes (PWD) in Kent County

Estimates from the Michigan Behavioral Risk Factor Surveillance System (BRFSS) using a three year average, 1999-2001, indicate that in 2000 approximately 23,658 adults (aged 18 and up) have been diagnosed with diabetes. This includes an estimated 2,491 Latinos/Hispanics (6.2%) diagnosed with diabetes. In addition, it is estimated that 390 or 0.24% persons under the age of 18 have been diagnosed with diabetes. National studies suggest that an additional 10,470 Kent county adults have diabetes but are not aware of it. Among Kent county adults, 29,620 have Pre-diabetes (15.6% of adults 40-74 years of age).

Estimated Number of Persons in Kent county in 2000 Diagnosed with Diabetes (Rate per 100) <sup>1</sup>						
Age	Age White African American					
Group	<b>Total</b>	<b>Female</b>	<u>Male</u>	<b>Female</b>	<b>Male</b>	
18-44	$4,5\overline{55}$ ( 2.0)	$1,\overline{612}$ ( $1.7$ )	$1,91\overline{7}$ ( 2.0)	393 ( 3.5)	$31\overline{5}$ ( 3.1)	
45-54	5,343 (7.8)	1,858 ( 5.9)	2,428 (7.8)	246 ( 9.4)	364 (15.1)	
55-64	5,061 (13.3)	2,025 (11.0)	1,750 (10.3)	442 (30.3)	423 (35.7)	
65-74	4,508 (15.9)	1,956 (12.9)	1,937 (15.9)	256 (25.1)	246 (35.2)	
75+	<u>4,190 (15.2)</u>	<u>2,418 (13.8)</u>	<u>1,573</u> (16.1)	<u>177 (24.7)</u>	<u>59 (13.5)</u>	
<b>Total</b> (95% CI**)	<b>23,658*( 6.7)</b> (±2,260)	<b>9,870</b> ( <b>5.8</b> ) (±1,360)	<b>9,604</b> ( <b>6.1</b> ) (±1,470)	<b>1,514</b> ( <b>10.2</b> ) (±450)	<b>1,406</b> ( <b>10.9</b> ) (±460)	
* Difference in totals	is due to presence of 1,264 of "other	races" in the survey and the effect	s of rounding.			

### **Diabetes Deaths**

In 2000, diabetes was the seventh leading cause of death for Kent county residents. Diabetes was the primary cause of death for 112 individuals (2.7% of all deaths) and a contributing cause in an additional 303 deaths (7.4%).

Deaths in Kent County of PWD for the Year 2000 with Diabetes Listed as the Primary Cause Number of Deaths (Rates per 1,000 Diabetic Population)					
Age		White		African A	merican
Group	Total	Female	Male	Female	Male
0-44	4 ( NA)	0 ( NA)	3 ( NA)	1 (NA)	$0 \overline{(NA)}$
45-54	11 ( 2.06)	1 ( NA)	8 ( 3.29)	1 (NA)	1 (NA)
55-64	13 ( 2.57)	6 ( 2.96)	4 ( NA)	1 (NA)	2 (NA)
65-74	30 ( 6.65)	13 (6.65)	8 (4.13)	3 (NA)	5 (NA)
75+	<u>54 (12.89)</u>	<u>28 (11.58)</u>	<u>22 (13.99)</u>	2 (NA)	<u>1 (NA)</u>
Total	112*(4.73)	48 (4.86)	45 (4.69)	8(5.28)	$\overline{9}$ $\overline{(6.40)}$
	* Difference in the totals is due to	presence of 2 deaths of "other races".	NA Not Able to calculate	with less then 6 deaths.	. ,

### <u>Diabetes Hospitalizations Reported in the Michigan Inpatient Data Base (MIDB)</u>

In 2000, there were 6,872 hospital discharges of Kent county residents where diabetes was listed among the diagnoses. There were 462 (6.7%) of these hospitalizations that were directly due to diabetes, while an additional 2,102 (30.6%) involved hypertension and cardiovascular disease, conditions commonly associated with diabetes. In 1998, the comparable figures were 6,057 discharges with 397 (6.6%) directly attributed to diabetes.

Primary Reason for Hospitalization				
	20	00		
Condition	Count	Percent	Count	Percent
Diabetes	397	6.6%	462	6.7%
Hypertension	96	1.6%	112	1.6%
Other CVD	1,722	28.4%	1,990	29.0%
Kidney	65	1.1%	66	1.0%
Pneumonia	Included	in "Other"	257	3.7%
Other	3,777	62.4%	3,985	58.0%
TOTAL	6,057		6,872	

### Non-Traumatic **Lower Limb Amputations**

In 2000, some form of non-traumatic lower limb amputation occurred in 55 or 11.9% of the 462 hospital discharges with a primary diagnosis of diabetes. This compares to 57 amputations or 14.4% of the 397 hospitalizations of persons with diabetes in 1998.

- Michigan 2000 population estimates and the three year (1999-01) average from the Behavioral Risk Factor Surveillance System (BRFSS) a statewide telephone survey of Michigan residents ages 18 years and older.

  BRFSS data 1989 1993 rate of 6.2% ±2.9 Confidence Interval (CI).

  Medicaid 1996 data, Blue Cross/Blue Shield of Michigan Paid Claims Data, 1996 and BRFSS 1997-1999 data.

  National Health and Nutrition Examination Survey, III 1988-1994 (NHANES III Series 11, No. 1).

  US Health and Human Services news release, March 27, 2002.

  Michigan Department of Community Health (MDCH) death certificate data files.

  Michigan Inpatient (Nospital discharge) Data Base (MIDR) for 2000.

- Michigan Inpatient (hospital discharge) Data Base (MIDB) for 2000.

<sup>\*\* 95%</sup> CI represents the range within which the actual number of persons with diabetes in Kent county may fall with 95% confidence

# DIABETES IN MONTCALM COUNTY

### Estimated Number of Persons With Diabetes (PWD) in Montcalm County

Estimates from the Michigan Behavioral Risk Factor Surveillance System (BRFSS) using a three year average, 1999-2001, indicate that in 2000 approximately **2,849 adults** (aged **18 and up) have been diagnosed with diabetes.** This includes an estimated **86** Latinos/Hispanics (6.2%) diagnosed with diabetes. In addition, it is estimated that 40 or 0.24% persons under the age of 18 have been diagnosed with diabetes. National studies suggest that an additional 1,270 Montcalm county adults have diabetes but are not aware of it. Among Montcalm county adults, 3,560 have Pre-diabetes (15.6% of adults 40-74 years of age).

### Estimated Number of Persons in Montcalm county in 2000 Diagnosed with Diabetes (Rate per 100)<sup>1</sup>

Age		Whi	te
Group	<u>Total</u>	<b>Female</b>	Male
18-44	450 (2.0)	$19\overline{2} \ (1.7)$	246 ( 2.0)
45-54	591 (7.8)	235 ( 5.9)	320 (7.8)
55-64	712 (13.3)	331 (11.0)	310 (10.3)
65-74	619 (15.9)	288 (12.9)	320 (15.9)
75+	<u>478</u> (15.2)	<u>299 (13.8)</u>	<u>214</u> (16.1)
Total	2,849* ( 6.7)	1,346 ( 5.8)	1,410 (6.1)
(95% CI**)	$(\pm 250)$	$(\pm 160)$	$(\pm 180)$

Difference in totals is due to presence of 94 of "other races" in the survey and the effects of rounding.

### **Diabetes Deaths**

In 2000, diabetes was the sixth leading cause of death for Montcalm county residents. Diabetes was the primary cause of death for 16 individuals (3.0% of all deaths) and a contributing cause in an additional 31 deaths (5.8%).

### Deaths in Montcalm County of PWD for the Year 2000 with Diabetes Listed as the Primary Cause Number of Deaths (Rates per 1.000 Diabetic Population)

(Number of Beatins) (Number of Palacies)							
Age		White		African American			
Group	<u>Total</u>	<b>Female</b>	<b>Male</b>	Female Male			
0-44	0 ( NA)*	$\overline{0}$ (NA)	$0 \overline{(NA)}$	No African American			
45-54	0 ( NA)	0 ( NA)	0 (NA)	deaths recorded.			
55-64	1 ( NA)	1 ( NA)	0 (NA)				
65-74	4 ( NA)	3 ( NA)	1 (NA)				
75+	<u>11 (23.01)</u>	<u>7 (23.41)</u>	<u>4 (NA)</u>				
Total	<i>16 (5.62)</i>	<i>11 (8.17)</i>	5 (NA)				
	NA Not Able to calculate with less	then 6 deaths.					

#### Diabetes Hospitalizations Reported in the Michigan Inpatient Data Base (MIDB)<sup>7</sup>

In 2000, there were 1,054 hospital discharges of Montcalm county residents where diabetes was listed among the diagnoses. There were 81 (7.7%) of these hospitalizations that were directly due to diabetes, while an additional 374 (35.5%) involved hypertension and cardiovascular disease, conditions commonly associated with diabetes. In 1998, the comparable figures were 1,017 discharges with 73 (7.2%) directly attributed to diabetes.

Primary Reason for Hospitalization						
	1998		2000 _			
Condition	Count	Percent	Count	Percent		
Diabetes	73	7.2%	81	7.7%		
Hypertension	10	1.0%	10	0.9%		
Other CVD	356	35.0%	364	34.5%		
Kidney	8	0.8%	8	0.8%		
Pneumonia	Included	in "Other"	47	4.5%		
Other	<u>570</u>	56.0%	<u>544</u>	51.6%		
TOTAL	$1,\overline{017}$		$1,\overline{054}$			

### Non-Traumatic **Lower Limb Amputations**

In 2000, some form of non-traumatic lower limb amputation occurred in 7 or 8.6% of the 81 hospital discharges with a primary diagnosis of diabetes. This compares to 6 amputations or 8.2% of the 73 hospitalizations of persons with diabetes in 1998.

- 1) Michigan 2000 population estimates and the three year (1999-01) average from the Behavioral Risk Factor Surveillance System (BRFSS) a statewide telephone survey of Michigan residents Michigan 2000 population estimates and the three year (1999-01) average from the Behavioral Risk Factor Surve ages 18 years and older.

  BRFSS data 1989 - 1993 rate of 6.2% ±2.9 Confidence Interval (CI).

  Medicaid 1996 data, Blue Cross/Blue Shield of Michigan Paid Claims Data, 1996 and BRFSS 1997-1999 data.

  National Health and Nutrition Examination Survey, III 1988-1994 (NHANES III Series 11, No. 1).

  US Health and Human Services news release, March 27, 2002.

  Michigan Department of Community Health (MDCH) death certificate data files.

  Michigan Inpatient (hospital discharge) Data Base (MIDB) for 2000.

<sup>\* 95%</sup> CI represents the range within which the actual number of persons with diabetes in Montcalm county may fall with 95% confidence.

## **DIABETES IN OTTAWA COUNTY**

### Estimated Number of Persons With Diabetes (PWD) in Ottawa County

Estimates from the Michigan Behavioral Risk Factor Surveillance System (BRFSS) using a three year average, 1999-2001, indicate that in 2000 approximately **9,795 adults (aged 18 and up) have been diagnosed with diabetes.** This includes an estimated **1,035** Latinos/Hispanics (6.2%) diagnosed with diabetes. In addition, it is estimated that 170 or 0.24% persons under the age of 18 have been diagnosed with diabetes. National studies suggest that an additional 4,180 Ottawa county adults have diabetes but are not aware of it. Among Ottawa county adults, 12,250 have Pre-diabetes (15.6% of adults 40-74 years of age).

#### Estimated Number of Persons in Ottawa county in 2000 Diagnosed with Diabetes (Rate per 100)<sup>1</sup> White **African American** Age Group Total Female Male Female Male 1,846 ( 2.0) 2,193 ( 7.8) 90<del>9</del> ( 2.0) 1,163 ( 7.8) 21 ( 3.5) 11 ( 9.4) $2\overline{1}$ ( 3.1) 18-44 782 (1.7) 45-54 878 (5.9) 21 (15.1) 55-64 2,231 (13.3) 1,015 (11.0) 920 (10.3) 11 (30.3) 11 (35.7) 65-74 1,837 (15.9) 878 (12.9) 930 (15.9) 0 (25.1) 11 (35.2) 75 +1,687 (15.2) 1,078 (13.8) 730 (16.1) 0 (24.7) 0 (13.5) 4,652 (6.1) Total 9.795\*( 6.7) 4,631 ( 5.8) 42 (10.2) 63 (10.9) (95% CI\*\*) $(\pm 930)$ $(\pm 650)$ $(\pm 20)$ $(\pm 600)$ $(\pm 30)$

#### **Diabetes Deaths**

In 2000, diabetes was the eighth leading cause of death for Ottawa county residents. Diabetes was the primary cause of death for 34 individuals (2.3% of all deaths) and a contributing cause in an additional 85 deaths (5.8%).

Deaths in Ottawa County of PWD for the Year 2000 with Diabetes Listed as the Primary Cause Number of Deaths (Rates per 1,000 Diabetic Population)						
Age		White		African American		
Group	Total	<b>Female</b>	<b>Male</b>	Female Male		
0-44	4 ( NA)	1 ( NA)	$2\overline{(NA)}$	No African American		
45-54	2 ( NA)	1 ( NA)	1 (NA)	deaths reported for		
55-64	4 ( NA)	1 ( NA)	3 (NA)	Ottawa county		
65-74	7 (3.81)	0 ( NA)	7 (7.52)	•		
75+	<u>17 (10.08)</u>	<u>11 (10.20)</u>	<u>5 (NA)</u>			
Total	34* (3.47)	$\overline{14}  (\overline{3.02})$	18 (3.87)			
	* Difference in the totals is due to	presence of 2 deaths of "other races".	NA Not Able to calculate	with less then 6 deaths.		

### Diabetes Hospitalizations Reported in the Michigan Inpatient Data Base (MIDB)<sup>7</sup>

In 2000, there were 2,445 hospital discharges of Ottawa county residents where diabetes was listed among the diagnoses. There were 184 (7.5%) of these hospitalizations that were directly due to diabetes, while an additional 824 (33.7%) involved hypertension and cardiovascular disease, conditions commonly associated with diabetes. In 1998, the comparable figures were 2,069 discharges with 142 (6.9%) directly attributed to diabetes.

Primary Reason for Hospitalization						
	1998		2000 _			
Condition	Count	Percent	Count	Percent		
Diabetes	142	6.9%	184	7.5%		
Hypertension	23	1.1%	33	1.3%		
Other CVD	650	31.4%	791	32.4%		
Kidney	28	1.4%	27	1.1%		
Pneumonia	Included	in "Other"	74	3.0%		
Other	1,226	59.3%	<u>1,336</u>	54.6%		
TOTAL	2,069		2,445			

#### **Non-Traumatic Lower Limb Amputations**

In 2000, some form of non-traumatic lower limb amputation occurred in 28 or 15.2% of the 184 hospital discharges with a primary diagnosis of diabetes. This compares to 17 amputations or 12.0% of the 142 hospitalizations of persons with diabetes in 1998.

- Michigan 2000 population estimates and the three year (1999-01) average from the Behavioral Risk Factor Surveillance System (BRFSS) a statewide telephone survey of Michigan residents ages 18 years and older.

  BRFSS data 1989 1993 rate of 6.2% ±2.9 Confidence Interval (CI).

  Medicaid 1996 data, Blue Cross/Blue Shield of Michigan Paid Claims Data, 1996 and BRFSS 1997-1999 data.

  National Health and Nutrition Examination Survey, III 1988-1994 (NHANES III Series 11, No. 1).

  US Health and Human Services news release, March 27, 2002.

  Michigan Department of Community Health (MDCH) death certificate data files.

  Michigan Inpatient (hospital discharge) Data Base (MIDB) for 2000.

Difference in totals is due to presence of 406 of "other races" in the survey and the effects of rounding

<sup>\* 95%</sup> CI represents the range within which the actual number of persons with diabetes in Ottawa county may fall with 95% confidence.